

**Design Issues of Radioactive Ion Beam Facilities,**  
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(DSM/CEA, IN2P3/CNRS) - The interest for  
Radioactive Ion Beams is increasing in many countries  
all around the world. These ions open new domains of  
research for nuclear physics, nuclear astrophysics,  
atomic physics, etc. Two methods are used for the  
production of these beams: fragmentation of a primary,  
high energy heavy ion beam passing through a thin  
target or nuclei production in a thick production target  
bombarded either by an heavy ion beam, a proton beam  
or by neutrons. When the radioactive species are  
produced in a thick target, they must be extracted,  
ionised, separated, identified and finally accelerated.  
This requires a radioactive ion source, a mass separator  
and a post accelerator. The paper reviews these two  
methods, their respective domain and the specific  
problems related to the control and the acceleration of  
radioactive ion beams.